

**REMARKS**

This amendment is in response to the Office Action dated September 14, 2009. Claims 11, 12, 14, 15 and 20 have been amended, and claims 1-10, 13 and 19 have been canceled without prejudice or disclaimer; as such, claims 11-12 and 14-18 and 20 are now pending in this application. Claims 11 and 12 are independent claims. Reconsideration and allowance is requested in view of the claim amendments and the following remarks. Support for these amended claims can be found, for example, in paragraph [0016] of the specification as represented in U.S. Pub. No. 2007/0185710.

Claims 1 - 10 and 19 are canceled and any rejections to these claims are moot.

**Claims Objections**

Claims 11 and 12 are objected to because Examiner believe they are the verbatim the same. Applicant has amended claims 11 and 12 to recite different features of the invention.

As such, Applicant respectfully requests withdrawal of the objection to claims 11 and 12.

Claim 16 has been objected to because examiner believes it is not proper to have one dependant claim dependant on two different independent claims. This is inaccurate.

Section 37 CFR 1.75(c) states: (c) One or more claims may be presented in dependent form, referring back to and further limiting another claim or claims in the same application. Any dependent claim which refers to more than one other claim ("multiple dependent claim") shall refer to such other claims in the alternative only. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. For fee calculation purposes under § 1.16, a multiple dependent claim will be considered to be that number of claims to which direct reference is made therein. For fee calculation purposes also, any claim depending from a multiple dependent claim will be considered to be that number of claims to which direct reference is made in that multiple dependent claim. In addition to the other filing fees, any original application which is filed with, or is amended to include, multiple dependent claims must have paid therein the fee set forth in § 1.16(j). Claims in dependent form shall be construed to include all the limitations of the claim incorporated by reference into the dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of each of the particular claims in relation to which it is being considered.

Generally, a multiple dependent claim is a dependent claim which refers back in the alternative to more than one preceding independent or dependent claim.

As such, Applicant respectfully requests withdrawal of this objection to claim 16.

### **35 USC § 102 Rejections**

Claims 1, 2, 11, 12 and 19 have been rejected under 35 U.S.C. § 102(b) as being as being anticipated by Wright et al (U.S. Patent 6,109,107, hereinafter referred to as “Wright ‘107”).

Applicant respectfully traverses this rejection. Claims 1, 2 and 19 have been canceled by the foregoing Amendment. Claim 12 has been amended to generally incorporate the limitations of claim 13 by the foregoing Amendment.

Claim 11 recites:

*A method for preventing senility by constructing and applying a Noise-Vocoded Speech Sound signal comprising:*

*dividing at least a portion of a speech signal into prescribed frequency band signals; extracting envelopes of each of the prescribed frequency band signals;*

*subjecting each of the frequency band signals to noise degradation;*

*summing up the outputs of the frequency band signals to form the Noise-Vocoded Speech Sound signal;*

*outputting the Noise-Vocoded Speech Sound signal such that the Noise-Vocoded Speech Sound signal activates various brain regions other than typically activated brain regions during aural recognition.*

Wright ‘107 fails to teach, suggest, or disclose each and every claimed feature.

Specifically, Wright ‘107 fails to teach, suggest, or disclose “*subjecting each of the frequency band signals to noise degradation; summing up the outputs of the frequency band signals to form the Noise-Vocoded Speech Sound signal.*”

Moreover, Wright '107 fails to teach, suggest, or disclose "*outputting the Noise-Vocoded Speech Sound signal such that the Noise-Vocoded Speech Sound signal activates various brain regions other than typically activated brain regions during aural recognition.*"

Wright '107 provides a means for screening individuals for specific language impairment (SLI) and for training individuals who suffer from SLI so as to remediate the effects of the impairment. Screening of an individual for SLI according to Wright '107 involves presenting the individual with several different patterns of target sound stimuli and mask sound stimuli. A target stimulus is the target of reception. A mask sound stimulus is a sound that may destructively interfere with the target sound stimulus so as to make the target more difficult to detect in the presence of the mask. Many test patterns comprising different combinations of target and mask sound stimuli are used to assess backward masking effects and spectral interference effects in an individual under test.

Though Wright '107 provides a means where exemplary target-mask sound stimulus patterns can be used to assess a person for impairment based upon backward masking effects, there is no mention of subjecting each of the frequency band signals to noise degradation and summing up the outputs of the frequency band signals to form the Noise-Vocoded Speech Sound signal.

Moreover, there is no mention of outputting the Noise-Vocoded Speech Sound signal such that the Noise-Vocoded Speech Sound signal activates various brain regions other than typically activated brain regions during aural recognition in Wright '107.

As such, Wright '107 fails to teach or suggest various features of independent claim 11. For reasons similar to those regarding claim 11, independent claims 12 are similarly neither disclosed nor suggested by Wright '107, as well as for their own separately recited patentably distinct features.

Accordingly, Applicant respectfully requests that the rejection of claims 11 and 12 under 35 U.S.C. § 102(b) as being anticipated by Wright '107 be withdrawn.

**35 USC § 103 Rejections**

Claims 3-8, 10, 13-18 and 20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright '107 in view of Applicant's admitted prior art. Applicant respectfully traverses this rejection.

Claims 3 – 8 and 13 have been canceled and claim 12 has been amended to incorporate the limitations of claim 13. Claims 14-18 and 20 depend from and thus incorporate the features of claims 11 or 12, which are neither disclosed nor suggested by Wright '107, for the reasons stated above.

Claim 12 recites:

*A method for preventing senility by constructing and applying a Noise-Vocoded Speech Sound signal comprising steps of:*

*extracting each of prescribed frequency band signals from a speech signal using a plurality of first bandpass filters of a first bandpass filter section;*

*extracting each of envelopes of the frequency band signals using each of envelope extractors of an envelope extraction section;*

*applying a noise source signal to a plurality of second bandpass filters of a second bandpass filter section;*

*extracting noise signals corresponding to the plurality of prescribed frequency band signals;*

*multiplying each of outputs from the envelop extraction section and each of outputs from the second bandpass filter section in a multiplication section;*

*summing up the outputs from the multiplication section in an addition section to form the Noise-Vocoded Speech Sound signal; and*

*outputting the Noise-Vocoded Speech Sound signal such that the Noise-Vocoded Speech Sound signal activates various brain regions other than typically activated brain regions during aural recognition.*

As stated above, there is no mention of at least outputting the Noise-Vocoded Speech Sound signal such that the Noise-Vocoded Speech Sound signal activates various brain regions other than typically activated brain regions during aural recognition in Wright '107.

Applicant's admitted prior art does not remedy the deficiencies of Wright '107, as the various features recited above are also absent from Applicant's admitted prior art. For example, at least Applicant's claimed features of "*outputting the Noise-Vocoded Speech Sound signal such that the Noise-Vocoded Speech Sound signal activates various brain regions other than typically activated brain regions during aural recognition,*" are neither disclosed nor suggested by Applicant's admitted prior art.

### **Official Notice**

There is no concession as to the veracity of Official Notice, if taken in any Office Action.

An affidavit or document should be provided in support of any Official Notice taken. 37 C.F.R. §1.104(d)(2), M.P.E.P. § 2144.03. See also, *Ex parte Natale*, 11 USPQ2d 1222, 1227-1228 (Bd. Pat. App. & Int. 1989)(failure to provide any objective evidence to support the challenged use of Official Notice constitutes clear and reversible error).

### **Conclusion**

In view of the above amendment and remarks, applicant believes the pending application is in condition for allowance.

This response is believed to be a complete response to the Office Action. However, Applicant reserves the right to set forth further arguments supporting the patentability of their

claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers.

**Extensions of time**

Please treat any concurrent or future reply, requiring a petition for an extension of time under 37 C.F.R. §1.136, as incorporating a petition for extension of time for the appropriate length of time.

The Commissioner is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees.

**Fees-general authorization**

The Commissioner is hereby authorized to charge any deficiency in fees filed, asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm).

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. IRD-0016 from which the undersigned is authorized to draw.

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Respectfully submitted,

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